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IN THE COMPETITION

Case No. : 1382/7/7/21

APPEAL
TRIBUNAL

Salisbury Square House
8 Salisbury Square
London EC4Y 8AP

Monday 6th October 2025 – Tuesday 4th November 2025

Before:

Mrs Justice Bacon

Derek Ridyard

Justin Turner KC

(Sitting as a Tribunal in England and Wales)

BETWEEN:

Consumers' Association

Class Representative

v

Qualcomm Incorporated

Defendant

A P P E A R A N C E S

PHILIP MOSER KC, ROB WILLIAMS KC, MICHAEL ARMITAGE, CIAR MCANDREW,
CHARLOTTE MCLEAN, DANIEL ALEXANDER KC and DAVID IVISON (Instructed by
Hausfeld & Co LLP) on behalf of Consumers' Association

DANIEL JOWELL KC, NICHOLAS SAUNDERS KC, DAVID BAILEY, SOPHIE BIRD,
CHARLES WALL, ALEXANDRA BRECKENRIDGE (Instructed by Norton Rose Fulbright
LLP) on behalf of Qualcomm Incorporated

1 Tuesday, 14 October 2025
 2 (10.00 am)
 3 Housekeeping
 4 THE CHAIR: Yes, Mr Bailey.
 5 MR BAILEY: Good morning, Madam, members of the Tribunal.
 6 Unless there is any housekeeping, Qualcomm proposes to
 7 call Mr Katouzian.
 8 THE CHAIR: I do have one question, and I do not know if you
 9 are able to answer it or whether it needs to be directed
 10 at someone else. Yesterday, in the cross-examination of
 11 Mr Gonell, he made a point in the afternoon — I am
 12 sorry, I do not have a transcript reference — but he
 13 said, when asked about, I think, in the context of 5G
 14 licensing he said:
 15 "You have to distinguish between a licensed product
 16 and a licensed patent."
 17 I think he was making the point — and we have just
 18 had a brief discussion about this — I think he was
 19 making the point that if one had a licence through the
 20 contract manufacturers which covered, say, 4G products
 21 and a phone was then made, which was a 5G phone, which
 22 was backwards compatible with 4G, which they were all at
 23 that point, that as long as one was paying a royalty on
 24 the phone, because it was using the 4G technology, which
 25 was licensed and therefore required a royalty to be

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1 paid, then you did not need to negotiate a further SEP
 2 licence, but you would have needed to have a SEP licence
 3 if you had, for example, a phone that was only 5G,
 4 although that was theoretical because there was not any
 5 such phone at that time.
 6 Is that a correct interpretation of his comment
 7 about distinguishing between a licensed product and
 8 licensed patent or have we misunderstood what he was
 9 saying? I am sorry, we should perhaps have asked for
 10 clarification at the time, but we have just been talking
 11 about this.
 12 MR BAILEY: Madam, I think obviously I was not here
 13 yesterday and it would probably behove me to take
 14 instructions in relation to the point. Moreover, of
 15 course I cannot give evidence as to what Mr Gonell did
 16 or did not mean.
 17 THE CHAIR: No.
 18 MR BAILEY: If there is a way that we could clarify what he
 19 meant —
 20 THE CHAIR: I am not asking you to give evidence; I am just
 21 asking what is your interpretation of what he was
 22 saying? I should just say, yes, I am just — I am just
 23 trying to — it was in the afternoon and he said
 24 something along the lines of:
 25 "You are missing the distinction between licensed

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1 patents and licensed products."
 2 Then he talked about multi-mode 5G-enabled phones.
 3 So we wanted to just make sure that we had correctly
 4 understood what he was saying there. It may be that
 5 there is a dispute between the parties as to what he
 6 meant, but I just wanted to raise that point now. Maybe
 7 we could come back to it, either at the end of the day
 8 or tomorrow, before the hot-tub, because we just thought
 9 that it might be material as a point of framing, whether
 10 there is a dispute about that aspect of his evidence and
 11 how it is to be interpreted.
 12 MR BAILEY: I am very happy to take instructions and then
 13 seek to address it, either before lunch or after today's
 14 evidence, if that will assist.
 15 THE CHAIR: All right. Thank you.
 16 MR BAILEY: In which case, Qualcomm calls Mr Katouzian.
 17 MR ALEX KATOZIAN (affirmed)
 18 Examination-in-chief by MR BAILEY
 19 MR BAILEY: Good morning, Mr Katouzian.
 20 A. Morning.
 21 Q. There is a screen in front of you and I am just going to
 22 take you to the various witness statements you provided.
 23 Could you be shown, please, first of all, {IRC/3/1}.
 24 A. Yes.
 25 Q. Is that your first witness statement in these

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1 proceedings?
 2 A. Yes, it is.
 3 Q. Then could we go, please, to page 18 {IRC/3/18}. Is
 4 that your signature?
 5 A. Yes.
 6 Q. I understand that you wish to make three corrections to
 7 your statement. Madam, members of the Tribunal, two of
 8 those were brought to the solicitors for the Class
 9 Representative's attention last night and the third
 10 I mentioned to my learned friend just before this
 11 morning.
 12 THE CHAIR: Thank you.
 13 MR BAILEY: Can we go, please, to page 6 {IRC/3/6}. In
 14 paragraph 24, I understand you wish to make a correction
 15 relating to your experience?
 16 A. Yes, that is correct.
 17 Q. Could you explain to the Tribunal what you would like to
 18 correct, please.
 19 A. Yes. It is 20-plus years of experience at Qualcomm,
 20 otherwise I have 35 or 36 years of experience.
 21 Q. Thank you.
 22 Can we go then, please, to page 11 {IRC/3/11}. At
 23 paragraph 47, I would be grateful if you do not mention
 24 the figure in the last sentence, but I understand you
 25 wish to clarify the nature of that figure for QCT?

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1 A. Apple representing approximately ---
 2 Q. Yes, that one. I understand you wanted to raise
 3 a clarification in relation to the revenue?
 4 A. Yes. The revenue --- the revenue for the mobile business
 5 is about (redacted --- confidential information) and the
 6 mobile business is about 70% of QCT's revenue.
 7 Q. Then, finally, on page 13 {IRC/3/13}, under
 8 paragraph 55, there is a diagram of various iPhones.
 9 A. Yes.
 10 Q. I understand you wish to correct the date relating to
 11 the iPhone 4. If you could just tell the Tribunal.
 12 A. Yes. So if you look at iPhone 4, dated June 24, 2010,
 13 the iPhone 4, with the Qualcomm chipset actually came to
 14 production into consumers' hands in February of 2011.
 15 THE CHAIR: All right. So the date that is given
 16 of June 2010 should be February 2011?
 17 A. Infineon chip---only in June 24, 2010 and the Qualcomm
 18 variants came in February of 2011.
 19 THE CHAIR: Oh, I see.
 20 A. Yes.
 21 THE CHAIR: So the Qualcomm chip was February 2011?
 22 A. That is correct.
 23 THE CHAIR: All right. Thank you.
 24 MR BAILEY: I am grateful. Could you now be shown, please,
 25 {IRC/6/1}. Is that your second witness statement in

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1 these proceedings?
 2 A. Yes, it is.
 3 Q. If you go, please, to page 7 {IRC/6/7}. Is that your
 4 signature?
 5 A. Yes, it is.
 6 Q. Are the contents of both of your witness statements true
 7 to the best of your knowledge and belief?
 8 A. Yes, they are.
 9 Q. Do those statements represent the evidence you wish to
 10 give to this Tribunal in these proceedings?
 11 A. Yes.
 12 MR BAILEY: My learned friend might have some questions for
 13 you.
 14 A. Thank you.
 15 Cross---examination by MR ARMITAGE
 16 MR ARMITAGE: Good morning, Mr Katouzian. Just a bit of
 17 housekeeping at the start. I hope you have three
 18 hard---copy bundles in front of you?
 19 A. I do.
 20 Q. Those are purely for the witnesses' convenience. I
 21 hope, Mr Turner, you have copies as well. You should
 22 also have to hand, indeed at the front of those two
 23 bundles, your witness statements in hard copy.
 24 Everything I am going to ask you about will come up on
 25 the electronic screen in front of you so it may be

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1 easier, it is up to you, to follow along on there.
 2 A. Yes.
 3 Q. I am going to start in open. As an advance warning,
 4 I am going to have to do a degree of going in and out of
 5 open and close. I have tried to avoid this as much as
 6 possible but it is just inevitable, given the documents.
 7 THE CHAIR: How often is that likely to happen and is it
 8 possible to group the closed session points together?
 9 MR ARMITAGE: I have sought to do that as much as possible,
 10 but there are going to be a few occasions, possibly
 11 three or four times coming in and out in total.
 12 THE CHAIR: All right. Is it not possible to reduce that?
 13 MR ARMITAGE: I will see what I can do as I go along. As
 14 I say, I have sought to do so as much as possible. It
 15 is just the nature of the chronology is sometimes
 16 a little difficult, but I have sought to minimise the
 17 process as much as I can.
 18 THE CHAIR: All right. Okay. I understand now the
 19 procedure does not require us to actually rise every
 20 time you go in and out of closed session.
 21 MR ARMITAGE: Yes.
 22 So, Mr Katouzian, you are an electrical engineer by
 23 background, yes?
 24 A. That's correct.
 25 Q. You have been at Qualcomm since 2002 so for well over

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1 20 years?
 2 A. Correct.
 3 Q. You have held various different roles over that period,
 4 but the majority of your time has been spent at Qualcomm
 5 CDMA Technologies or QCT for short?
 6 A. That is correct.
 7 Q. That is the part of the business that, among other
 8 things, designs and manufacturers cellular baseband
 9 chipsets for use in mobile phones; yes?
 10 A. Yes, that is correct.
 11 Q. It is a separate business unit from Qualcomm Technology
 12 Licensing or QTL which deals with patent licences for
 13 SEPs?
 14 A. That is correct.
 15 Q. You have not ever worked within QTL?
 16 A. No, I have not.
 17 Q. You have not personally had any involvement with patent
 18 licensing negotiations at any stage in your time at
 19 Qualcomm, have you?
 20 A. No, none at all.
 21 Q. Could we look at paragraph 8 of your first statement
 22 {IRC/3/3}. It should be in the first tab of your
 23 hard---copy bundle, volume 1 of your hard---copy bundles,
 24 and it will come on the screen as well, Mr Katouzian.
 25 A. Tab 3 you said; right?

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1 Q. Yes, paragraph 8. Can you see the sentence at the end
 2 of the page beginning:
 3 "Today, QCT generates ..."
 4 So paragraph 8 ---
 5 A. "Today QCT generates ..." , yes.
 6 Q. I understand that that figure is no longer confidential .
 7 I will just pause for a moment in case I have that
 8 wrong. That has been confirmed. So you say there that:
 9 "Today, QCT generates roughly 75% to 80% of
 10 Qualcomm Incorporated's annual revenue."
 11 Then you say that:
 12 "QCT's products that are incorporated into mobile
 13 devices amount to approximately [I think that figure is
 14 also non-confidential but I will not read it out just in
 15 case] of QCT's revenue."
 16 In relation to the first figure, the 75% to 80%,
 17 that is, as you say there, the relative revenues of QCT
 18 and QTL today by which you mean presumably the date on
 19 which you signed your first witness statement
 20 so November 2024?
 21 A. Correct.
 22 Q. You are referring there to relative revenues as opposed
 23 to profitability ; yes?
 24 A. Revenues, correct.
 25 Q. You know that this claim covers a period going back to

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1 1 October 2015 and are you aware that my client makes
 2 allegations about licensing negotiations going back well
 3 before that, for example negotiations with Samsung
 4 in 2009 and 2013; yes?
 5 A. I am not sure of what QTL terms and agreements were and
 6 what dates, but these are figures as of the time that
 7 I signed.
 8 Q. Thank you. Could we just look very briefly at
 9 {POF/879.02}, which is tab 100, which should be ---
 10 A. Is that 1 of 3?
 11 Q. I beg your pardon?
 12 A. Which book?
 13 Q. It should be either right at the end of the second
 14 volume or right at the beginning of the third. I think
 15 it is the first document in the third volume actually.
 16 A. Ah, okay.
 17 Q. So these are some published financial results for the
 18 fiscal year 2018.
 19 A. I am sorry, you said 100 or 101?
 20 Q. Tab 100.
 21 A. 100.
 22 Q. In the hard copy.
 23 A. Yes. Okay.
 24 Q. So, as I say, these are some published financial results
 25 for the fiscal year 2018. That happens to be a year

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1 during which there are some relevant licensing
 2 negotiations with Samsung. Is that the kind of document
 3 that Qualcomm routinely publishes to give information on
 4 its financial results?
 5 A. Yes.
 6 Q. Could you turn on to page 4 {POF/879.02/4}. You should
 7 have two tables and it is the second --- it is the second
 8 table I am interested in, so headed, "Fiscal 2018". Can
 9 you see that?
 10 A. Yes.
 11 Q. Can you see there that that splits out revenues and EBT
 12 for QCT and QTL? Can you see that for the fiscal
 13 year 2018 QCT's revenues are around \$17.3 billion; yes?
 14 A. Correct.
 15 Q. Then the QTL revenues are around \$5.2 billion; yes, for
 16 the same period?
 17 A. Correct.
 18 Q. Then you see that there are figures given there for EBT,
 19 which stands for Earning Before Tax, and that is
 20 a measure of profitability ; yes?
 21 A. Correct.
 22 Q. You can see that on that metric, QTL is rather more
 23 profitable in terms of the dollar amounts than QCT; yes?
 24 So it is 3.5 billion or thereabouts for QTL and slightly
 25 below 3 billion for QCT in terms of the EBT

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1 profitability figure?
 2 A. Correct.
 3 Q. Can you see in the table to the right it is a similar
 4 story for the fiscal year 2017, in the sense that the
 5 EBT figure is higher for the QTL part of the business;
 6 yes?
 7 A. Yes.
 8 Q. So certainly at this point in time QTL was significantly
 9 more profitable than QCT, both in dollar amount terms
 10 and indeed when looking at the EBT figure as
 11 a percentage; yes?
 12 A. Yes, as it states here, yes.
 13 Q. So I would like to look at what you say in your
 14 statement about the competition that Qualcomm faces
 15 to --- to use your term --- "win the socket" of OEMs.
 16 A. Yes.
 17 Q. By "winning the socket" I understand you to mean
 18 Qualcomm baseband chipsets being selected by an OEM to
 19 go into a particular handset model; yes?
 20 A. That is correct .
 21 Q. Could we look, please, paragraph 24 of your first
 22 statement {IRC/3/6}.
 23 A. 23?
 24 Q. Paragraph 24, please.
 25 A. Yes.

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1 Q. The sentence I want to look at is preceded by some pink
 2 highlighting so that is confidential and we are in open
 3 court, but can you see the final sentence of
 4 paragraph 24 which is the one --- one of the ones you
 5 made a correction in relation to?
 6 A. Yes.
 7 Q. That is not confidential. You say:
 8 "In my 20-plus years of experience, competitors for
 9 this business have included ..."
 10 Then by my account you list 12 suppliers who you say
 11 have competed with Qualcomm in your time at Qualcomm;
 12 yes?
 13 A. Yes.
 14 Q. Now, you are summarising the position there across over
 15 two decades; yes?
 16 A. I would say some of these competitors go before 2010.
 17 A lot of them are becoming more prominent after 2010.
 18 Q. Okay. But you are not distinguishing in this paragraph,
 19 are you, between different generations or standards of
 20 chipset, are you?
 21 A. No.
 22 Q. You accept that the number and extent of the competitors
 23 that Qualcomm faces varies depending on the generation
 24 and standard of chips that you might be talking about?
 25 A. It does not only depend on the cellular standard.

1 Actually it is a combination of what we call
 2 an "application processor" that allows multimedia
 3 capability to be on your phone, like camera and audio
 4 and video streaming, plus the cellular modem that allows
 5 the communications to happen.
 6 Q. Just to check on my question: the number and identity of
 7 the entities you might be competing with Qualcomm does
 8 vary with the different generation and standards of
 9 chips, does it not?
 10 A. That is correct.
 11 Q. Now, you know that this case focuses on 3G, 4G and 5G
 12 chips in particular; yes?
 13 A. Correct.
 14 Q. But, for example, one of the suppliers you mention here,
 15 Texas Instruments, only ever supplied 2G chips. I think
 16 that is right, is it not?
 17 A. Not correct. They also supplied 3G chipsets.
 18 Q. Okay. Could we look at {POF/536.1}. Sorry, I am going
 19 to come to back to that in closed session actually.
 20 So on this list another supplier you mention is VIA.
 21 We are going to ask some questions later about VIA. VIA
 22 is the only supplier identified in that list there that
 23 ever supplied third-generation CDMA 2000 chips, is it
 24 not?
 25 A. Later in --- later closer to the end of the decade, also

1 Samsung can provide CDMA-capable chipsets as well.
 2 Q. That was from about 2018, I think; is that correct?
 3 A. That is correct.
 4 Q. I think in fact MediaTek towards the end of 2016 did so?
 5 A. That is correct.
 6 Q. But in terms of third-generation CDMA 2000 chipsets, VIA
 7 is the only one that ever did that, other than Qualcomm,
 8 is it not?
 9 A. That is correct.
 10 Q. HiSilicon, another of the entities you mention, only
 11 ever supplied chips to Huawei. That is right, is it
 12 not?
 13 A. That is correct.
 14 Q. A number of the suppliers you mention in paragraph 24 of
 15 your statement have left the baseband chipset business
 16 all together, have they not?
 17 A. They have.
 18 Q. In some cases before the start of the claim period in
 19 this case, so before October 2015?
 20 A. Yes, they have.
 21 Q. So just to give some examples of entities in that
 22 category. Freescale, which was a subsidiary of
 23 Motorola, that exited the market in 2008. Does that
 24 sound right?
 25 A. I think approximately. I am not 100% sure.

1 Q. ST-Ericsson was a joint venture that was dissolved
 2 in August 2013. Does that sound correct?
 3 A. I think approximately, yes.
 4 Q. Then Broadcom, that exited the market in July 2014, did
 5 it not?
 6 A. Correct.
 7 Q. Are you aware that Broadcom has cited Qualcomm's
 8 dominance as one of the reasons it left the baseband
 9 chipset market?
 10 A. I am not aware.
 11 Q. I would like to now ask you some questions focusing on
 12 Qualcomm's status as a supplier of 3G chips and
 13 specifically CDMA 2000 chips. I am on slightly shaky
 14 ground here, but "CDMA" stands for Code-Division
 15 Multiple Access; yes?
 16 A. That is correct.
 17 Q. With apologies for what is probably an
 18 oversimplification, CDMA is a technology which can be
 19 used to allow multiple devices to communicate
 20 simultaneously using a shared channel, for example the
 21 same band of radio frequencies. Is that about right?
 22 A. Correct.
 23 Q. CDMA 2000 is a particular third-generation cellular
 24 standard that is based on CDMA technology; yes?
 25 A. Correct.

1 Q. It was a standard that was pioneered essentially by
 2 Qualcomm; yes?
 3 A. Correct.
 4 Q. It is right that CDMA 2000 was adopted by certain
 5 carriers in certain parts of the world?
 6 A. That is correct.
 7 Q. Two major US carriers, Verizon and Sprint, operated
 8 CDMA 2000—only networks between about 2002 and 2022;
 9 yes?
 10 A. That is correct.
 11 Q. So any OEM that wanted to offer handsets on those
 12 carriers in the United States, in that time period,
 13 needed access to CDMA 2000 chips; yes?
 14 A. Correct.
 15 Q. CDMA 2000 has also been deployed in important
 16 geographical regions like China, South Korea and Japan?
 17 A. Yes.
 18 Q. In contrast, a different 3G standard, UMTS, was adopted
 19 in other regions, for example, generally in Europe; yes?
 20 A. Yes, but UMTS is also known as wideband CDMA so
 21 generally the same technology addressing exactly the
 22 same market for wireless handsets to communicate to base
 23 stations and then, obviously, to the internet and to
 24 each other's handsets.
 25 Q. Yes. So that was going to be my next question actually.

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1 So UMTS is also based on CDMA technology, but it is
 2 a different standard, is it not, and, as you say, it is
 3 often referred to as "wideband CDMA" or "WCDMA"?
 4 A. That is correct.
 5 Q. While UMTS or WCDMA and CDMA 2000 are both based on the
 6 same underlying CDMA technology, they are not compatible
 7 with one another, are they?
 8 A. They operate at different frequencies and that is one of
 9 the incompatibilities, but you can make the phone have
 10 components that allow both to happen.
 11 Q. Yes. I am going to come to that. Thank you.
 12 But in practical terms though, if you had a handset
 13 which had a UMTS—only chip in it and, for example, you
 14 went on a business trip to China, your phone would not
 15 work if you were in an area which was only covered by a
 16 CDMA 2000 network. That is right, is it not?
 17 A. Yes, it could be possible. However, the widespread
 18 infrastructure would probably almost never allow you to
 19 fall into an area that was only CDMA. So nation would
 20 be covered by wideband CDMA as well.
 21 THE CHAIR: For you to have both functionalities on your
 22 handset, you would need a multi—mode chip?
 23 A. That is correct, Madam. Multi—mode chipset and the
 24 components that go along with it to allow the radio
 25 frequency to be able to access.

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1 MR ARMITAGE: As we go on, I may slip into just using "CDMA"
 2 when I am referring to CDMA 2000, just for convenience,
 3 as a shorthand.
 4 A. Sure.
 5 Q. Now, Qualcomm produced both UMTS chips and CDMA 2000
 6 chips, did it not? I am going to come back to
 7 multi—mode chips, but it produced both CDMA 2000 and
 8 UMTS, did it not?
 9 A. Yes.
 10 Q. Qualcomm considered UMTS and CDMA 2000 to be separate
 11 markets, did it not?
 12 A. The market that it serves, it is the same. The concept
 13 is exactly the same. However, wireless carriers that
 14 had CDMA were separated out versus ones that did not and
 15 I think you pointed out the example of Verizon, Sprint,
 16 China Telecom, KDDI in Japan, South Korea. They had
 17 carriers that had CDMA so geographical separation was
 18 there, but exactly the same concept.
 19 Q. Could we turn up, please, {POF/151}, which should be in
 20 your first volume at tab 15. Can you see there is
 21 an email from somebody called Andy Oberst —
 22 A. Yes.
 23 Q. — from July 2008? You are one of the recipients and it
 24 attaches a QCT strategic plan presentation.
 25 A. Yes.

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1 Q. Could we go on to page 4, please {POF/151/4}. If we can
 2 zoom in a bit. Can you see there is a reference there
 3 under the heading "Market Strategies", there are
 4 separate entries there for CDMA 2000 and for UMTS; yes?
 5 A. Correct.
 6 Q. Then if we can go over to page 5 {POF/151/5} and zoom in
 7 again, please. Under the heading "Our business is
 8 growing", you see there is a reference there to "UMTS
 9 market share gains and continued strong CDMA demand";
 10 yes?
 11 A. Yes.
 12 Q. Then at page 7 {POF/151/7}, if we could please, can you
 13 see in the list on the left there is the second numbered
 14 point, a reference to keeping the CDMA 2000 market
 15 healthy?
 16 A. Yes.
 17 Q. So Qualcomm is thinking about UMTS and CDMA 2000 as two
 18 separate markets with separate strategies; yes?
 19 A. No, not correct. These are just distinguished carriers
 20 that have CDMA and if, for example, there were more
 21 carriers using CDMA, that would be a growth for CDMA,
 22 but that is all it is pointing to. The market is the
 23 same. Concept is exactly the same. You have a cellular
 24 phone that connects to the wireless internet. You can
 25 call anybody in the world. It is just the frequency of

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1 the air interface is different between CDMA and wideband
 2 CDMA.
 3 Q. Well, Qualcomm was able to sustain a significant price
 4 premium for CDMA 2000 chips in comparison to UMTS chips,
 5 was it not?
 6 A. At times, there were different pricing structures
 7 associated with CDMA and wideband CDMA and if you do not
 8 mind I could elaborate on that, if it is good for
 9 the court.
 10 THE CHAIR: Well, only if you want to pursue that line of
 11 questioning, Mr Armitage.
 12 MR ARMITAGE: I am going to show the witness a document so
 13 perhaps in light of that document ---
 14 THE CHAIR: Perhaps you can wait to comment until you are
 15 shown the document.
 16 A. Sure, no problem.
 17 MR ARMITAGE: It is {POF/167}, tab 20, still in the same
 18 bundle. You can see we are in October 2008 here. Could
 19 we actually start on page 2 of the chain {POF/167/2}.
 20 You see somebody called Sanjay Mehta. Can you remind me
 21 who Mr Mehta was?
 22 A. He was the Head Finance person for QCT.
 23 Q. Thank you. He emails on 23 October 2008 a number of
 24 people, including yourself.
 25 A. Yes.

1 Q. You see the subject is, "CDMA vs UMTS pricing". He says
 2 that he is enclosing a deck that compares CDMA and UMTS
 3 pricing, yes?
 4 A. Correct.
 5 Q. If we could go back to the first page {POF/167/1}. You
 6 see Cristiano Amon, he is now the President of Qualcomm,
 7 is he not?
 8 A. No, he is the CEO and President of Qualcomm.
 9 Q. I am sorry, CEO. He emails Mr Mehta and somebody called
 10 James Lederer, high importance. Can you see he lists
 11 some of the issues arising from the document that has
 12 been forwarded?
 13 A. Second email?
 14 Q. The email of 24 October 2008, at 7.18 in the morning?
 15 A. Yes.
 16 Q. He gives a number of issues in a numbered list?
 17 A. Yes.
 18 Q. Can you see that he says in the first bullet point:
 19 "UMTS prices were higher than CDMA during
 20 introduction due to QC's UMTS modem leadership."
 21 In the second bullet, he says:
 22 "UMTS prices are now lower than CDMA not [due] to
 23 cost or volume but due to competition."
 24 Can you see that?
 25 A. Yes, I see it.

1 Q. So that is a clear recognition from Mr Amon, is it not,
 2 that UMTS and CDMA chips are subject to different
 3 degrees of competition as at 2008; yes?
 4 A. Different competition, but one of the reasons why the
 5 pricing is different is because the CDMA market is much
 6 smaller than UMTS. The UMTS market was much bigger and
 7 so by sheer volume lower number of units, higher price,
 8 higher number of units, lower price.
 9 Q. Okay. But he says it is not due to volume. He says it
 10 is due to competition. Do you disagree with that?
 11 A. I do, yes, because the volume was much higher and the
 12 competition was higher too.
 13 Q. Sorry.
 14 A. The competition was higher too, yes.
 15 Q. Thank you. Do you recall that the price differential
 16 between CDMA and UMTS chipsets was something that was
 17 raised by China Telecom at one stage?
 18 A. I do not recall.
 19 Q. Sorry, you do not?
 20 A. I do not.
 21 Q. Okay. Now, let us look, please, at Qualcomm's market
 22 shares in relation to 3G CDMA 2000 chips. Could we call
 23 up {ORE/21/36}. This is in tab 5, I hope, of your
 24 hard-copy bundle as well, but it will come up on the
 25 screen. I am sure it will be easier to do it on the

1 screen?
 2 A. Which book?
 3 Q. If you would like the hard copy it is tab 5 of the first
 4 bundle.
 5 A. Okay.
 6 Q. Do you have something called "Figure 3.1"?
 7 A. Yes.
 8 Q. That is marked as "outer ring confidential", but I think
 9 it has now been agreed that these figures are fair game
 10 for open court. I will pause for a moment. There was
 11 a discussion about this last week and they are based on
 12 the third-party databases and I think we --- thank you.
 13 Now, just to be clear, and to be fair to the
 14 witness, so "3G CDMA" in this context means chips that
 15 are compatible with at least CDMA 2000 networks; okay?
 16 A. I think there is a distinction between 2G CDMA and
 17 3G CDMA. 2G CDMA was really voice-based. 3G CDMA is
 18 more voice and data-based.
 19 THE CHAIR: Yes, all right, but we are just talking about 3G
 20 here, I think.
 21 MR ARMITAGE: These figures have been put together by my
 22 client's expert economist but using common third-party
 23 data sources.
 24 A. Yes.
 25 Q. The black line gives the market shares for Qualcomm and

1 the green line gives the market shares for VIA. I think
 2 we have already established, but just --- Qualcomm and
 3 VIA were the only two active suppliers of this sort of
 4 chipset, were they not?
 5 A. Yes, that is correct.
 6 (Redacted --- confidential information)
 7 MR ARMITAGE: Now, we were discussing the distinction
 8 between CDMA 2000 and UMTS chipsets and Qualcomm
 9 produced both types of chip; yes?
 10 A. Correct.
 11 Q. It also produced multi-mode chips, as the Chair said
 12 earlier, so that chips that complied with both CDMA 2000
 13 and UMTS, all in the same chip; yes?
 14 A. That is correct.
 15 Q. So what that meant is you could use a handset containing
 16 a Qualcomm multi-mode chip for data roaming around the
 17 world effectively; yes?
 18 A. Correct.
 19 Q. VIA did not offer multi-mode chipsets, did it?
 20 A. It did not.
 21 Q. So its CDMA chips did not work on UMTS networks, did
 22 they?
 23 A. They did not.
 24 Q. So, insofar as OEMs wanted multi-mode CDMA chips, VIA
 25 was not an option for their sockets, was it?

25

1 A. It could have been an option because there is evidence
 2 that Samsung released a phone in 2011 that had a VIA
 3 CDMA modem and their own LTE modem, so combined they
 4 would have a multi-mode solution.
 5 Q. Sorry, but my question was, insofar as OEMs wanted
 6 multi-mode chips, VIA was not an option?
 7 A. In a single chip, you are correct.
 8 Q. Thank you. That afforded Qualcomm a significant
 9 competitive advantage over VIA for 3G CDMA, did it not?
 10 A. As far as somebody wanting to have a multi-mode
 11 solution, yes, that is correct.
 12 Q. Multi-mode functionality was something that was
 13 particularly important to Apple; yes?
 14 A. Yes. To have one SKU, yes, correct.
 15 Q. So in relation to 3G CDMA, Qualcomm was the only
 16 supplier who could give Apple what it wanted on that
 17 front, was it not?
 18 A. They also had a choice to use VIA.
 19 THE CHAIR: I'm sorry, I think Mr Armitage was asking about
 20 Apple's requirement for multi-mode chipsets.
 21 MR ARMITAGE: Yes.
 22 THE CHAIR: You have agreed that Qualcomm was the only
 23 supplier of those?
 24 A. Correct.
 25 MR ARMITAGE: In fact, Apple did not regard VIA as a viable

26

1 option for chips generally, did it?
 2 A. I do not know how they did their evaluation of VIA.
 3 Q. Well, that is very fair, but let us just look at the
 4 Qualcomm internal understanding. Can we look at
 5 {POF/190}, which is tab 26. So it should be in your
 6 first folder.
 7 A. Yes.
 8 Q. Do you have that in front of you?
 9 A. Yes.
 10 Q. It is a little bit hard to parse this because you see at
 11 the top that Eric Koliander, who I think was the senior
 12 salesperson in QCT; yes? Is that right, Mr Koliander,
 13 he was a senior sales executive in QCT?
 14 A. Yes, yes, he ended up as a VP of Sales and he was in
 15 charge of Apple, but he is no longer with the company.
 16 Q. I just said it is a bit difficult to parse because he
 17 says "See comments in red below", but we do not have
 18 colour but we will do our best.
 19 A. Yes.
 20 Q. So can you see Thursday, May 28, 2009, there is an email
 21 from Mr Amon again?
 22 A. Yes.
 23 Q. To a number of people, including you. As I say, this
 24 is May 2009, so that is six months before something
 25 called the "Strategic Terms Agreement" with Apple was

27

1 entered into; yes?
 2 A. I am not familiar with that --- with the Strategic Terms
 3 Agreement with Apple.
 4 Q. Okay, that's fine. Can you see the heading though is,
 5 "Maverick --- CDMA interest --- summary"?
 6 A. Yes.
 7 Q. We know that "Maverick" was Apple --- was a codename for
 8 Apple internally?
 9 A. Yes.
 10 Q. Then if we could look over the page at page 2
 11 {POF/190/2}, and if you can zoom in and can we see the
 12 top of the page on the screen, please, there is
 13 a comment from EK, so these are probably the comments
 14 from Eric Koliander that ought to have been in red, he
 15 says:
 16 "8 remaining biz terms. I don't believe softening on
 17 any of these remaining 8 issues would improve our CDMA
 18 position. Truthfully, we should take a harder line with
 19 these issues for CDMA since their options are limited."
 20 Then "CA" I think that is probably Cristiano Amon,
 21 yes ---
 22 A. Yes.
 23 Q. --- says:
 24 "Do you believe there are alternative CDMA options
 25 that would meet Maverick's [various requirements] that

28

1 will be available by ... 09... at the latest? (Can't
 2 imagine VIA would be an option)."
 3 So that is a recognition internally , is it not, that
 4 VIA was not a realistic option for Apple?
 5 A. I think this is Christiano's opinion at that time. I do
 6 not know if he had any data associated with it.
 7 Q. Now, the context for these emails is Apple was planning
 8 to launch an iPhone on the Verizon network, which is
 9 a CDMA 2000 network; yes?
 10 A. Yes.
 11 Q. The first two 3G iPhones were not CDMA-enabled and, as
 12 we have seen, they did not use Qualcomm chips, did they?
 13 A. They did not.
 14 Q. They were exclusive, I think, to the AT&T network, which
 15 was a non-CDMA network?
 16 A. That is correct.
 17 Q. But Apple soon decided that it did want to offer a phone
 18 on the Verizon network and if I said that Verizon had
 19 around 100 million subscribers in 2010, would that sound
 20 about accurate?
 21 A. I am not sure of the number at that time.
 22 Q. It does not sound wildly wrong?
 23 A. Possible, yes. I am just not sure about the number.
 24 Q. I think, having corrected your statement, we know now
 25 that the first iPhone on the Verizon network was

1 launched in February 2011?
 2 A. Yes.
 3 Q. Using a Qualcomm CDMA chip?
 4 A. Yes, correct.
 5 Q. Apple was obviously planning that launch well before
 6 that. It was not something it could do overnight?
 7 A. I am not sure what their plans were before that.
 8 Q. You would accept, would you not, that Apple needed CDMA
 9 chips, given that it had the commercial objective of
 10 launching a phone on the Verizon network? That is
 11 obvious, is it not?
 12 A. Yes.
 13 Q. So a UMTS chipset was not a substitute from Apple's
 14 perspective in light of those plans, was it?
 15 A. Correct, no.
 16 Q. Apple never at any point used a VIA 3G CDMA chip, did
 17 it?
 18 A. It did not.
 19 Q. So if we can go to Samsung, still on 3G CDMA. Now, you
 20 refer in your statement at various points to Samsung's
 21 ability to self-supply chipsets.
 22 A. Yes, correct.
 23 Q. It did not begin to self-supply chipsets though, did it,
 24 until 2011? Does that sound correct?
 25 A. That is correct.

1 Q. That was only at that stage UMTS-enabled chipsets, was
 2 it not?
 3 A. I believe LTE as well.
 4 Q. I am sorry, but it was not CDMA-enabled chipsets at that
 5 stage was the point ---
 6 A. Correct.
 7 Q. CDMA 2000?
 8 A. Correct.
 9 Q. I think we established earlier that did not happen until
 10 quite a bit later, 2018?
 11 A. That is correct.
 12 Q. So it never supplied third-generation CDMA chipsets at
 13 any stage, did it, self-supplied?
 14 A. Self-supplied, no.
 15 Q. So in terms of supplying the Samsung socket for 3G CDMA
 16 chips, you would accept there was no competition from
 17 Samsung's Exynos chips for that --- for those sockets,
 18 was there?
 19 A. In those timeframes, correct, there was not.
 20 Q. Like Apple, Samsung would have regarded it as important
 21 to be able to offer handsets that enabled data roaming;
 22 yes?
 23 A. Yes.
 24 Q. We have established already that CDMA networks were
 25 deployed in China, also in Korea?

1 A. Correct.
 2 Q. Those were obviously important markets for Samsung; yes?
 3 A. Correct.
 4 Q. China Telecom, a major Chinese carrier, adopted the
 5 CDMA 2000 standard in or around 2008; yes?
 6 A. Correct.
 7 Q. So OEMs like Samsung selling handsets into China needed
 8 Qualcomm CDMA chips, did they not?
 9 A. They did, or they could use VIA.
 10 Q. Subject --- you are right. Subject to the point about
 11 VIA. They needed CDMA 2000 chips was the point I was
 12 making at this stage?
 13 A. Yes.
 14 Q. Thank you.
 15 Now, if we can look at paragraph 30 of your
 16 statement, please {IRC/3/7}.
 17 A. Sorry, what tab?
 18 Q. That should be the first document in the first file .
 19 A. Yes.
 20 Q. Paragraph 30 of your first statement.
 21 A. Yes.
 22 Q. You say:
 23 "Over the years, Samsung has used a number of
 24 different cellular baseband chipset suppliers, at times
 25 using one or more of its own ... Exynos, ST-Ericsson

1 [etc]."

2 We have established already though that out of that

3 list it is only VIA and Qualcomm that were able to

4 supply CDMA 2000 chips in the third generation; yes?

5 A. Yes, that is correct.

6 Q. You say in the second sentence that you recall that at

7 one time your main CDMA competitor for Samsung sockets

8 was VIA and that it won Samsung sockets; yes?

9 A. Correct.

10 Q. You are obviously not in a position, are you, to give

11 evidence about what VIA thought internally about its

12 relative market power versus Qualcomm?

13 A. No.

14 Q. But we know already that VIA could not do multi-mode

15 chipsets; yes?

16 A. That is correct.

17 Q. You personally thought that multi-mode capability was

18 something that gave Qualcomm a significant competitive

19 advantage, did you not?

20 A. If it is a single chipset, that is correct.

21 Q. Within a single chipset, exactly.

22 MR ARMITAGE: I think at that point I am probably going to

23 need to go into closed because I am going to have to ask

24 about some internal Samsung documents.

25 THE CHAIR: Are we going to go into the outer ring or inner

1 ring?

2 MR ARMITAGE: It looks like the inner ring only at this

3 stage.

4 THE CHAIR: Inner ring. I think that means that some of

5 those on Qualcomm's team need to then leave until we go

6 out of confidential session.

7 MR ARMITAGE: I am so sorry, I meant outer.

8 THE CHAIR: You meant outer?

9 MR ARMITAGE: Yes. The colour for outer looks more ominous

10 than the colour for inner, but I meant outer.

11 THE CHAIR: All right.

12 (10.47 am)

13 [In Private]

14 (11.06 am)

15 In Open Court

16 (11.06 am)

17 MR ARMITAGE: We are now going to turn to the LTE market.

18 I am going to start with hopefully some uncontroversial

19 questions. LTE chips were significantly superior to 3G

20 chips in terms of things like download speeds, were they

21 not?

22 A. Correct.

23 Q. From the perspective of OEMs, it was not going to have

24 been an option, certainly not a long-term option, to

25 continue using 3G chips instead of LTE chips, was it?

1 A. Correct.

2 Q. Qualcomm regarded LTE as a separate market from the

3 markets for 3G UMTS and 3G CDMA chips, did it not?

4 A. Just the evolution of 3G into LTE. The same markets,

5 different capabilities.

6 Q. The same markets, different capability?

7 A. Yes.

8 Q. Okay. Could we look at {POF/260}, please, tab 40 in

9 your first folder. If we can go to page 2 just on the

10 EPE {POF/260/2}. This is the QCT Strategic Plan 2011

11 so, again, a QCT document. It is likely you would have

12 seen and perhaps been involved in preparing this at the

13 time?

14 A. Yes, mostly likely.

15 Q. Then can we look at page 29 {POF/260/29}. Can you see

16 that QCT's market shares are there split out by

17 technology so you have a graph for CDMA, you have

18 a graph for WCDMA and you have a graph for LTE? Can you

19 see that?

20 A. Yes.

21 Q. So that rather suggests, does it not, that QCT did

22 regard them as three separate markets when thinking

23 about things like market shares?

24 A. Again, important to note that the carriers that had CDMA

25 and the carriers that had wideband CDMA would all

1 transition to LTE, regardless. So that evolution would

2 happen. So we would serve the same markets, but

3 different capabilities.

4 Q. From the perspective of an OEM, an LTE chip was not

5 substitutable for a 3G chip and vice versa, was it?

6 A. Correct, but backwards compatible.

7 Q. Yes, that was going to be my next question. It was

8 important, was it not, for LTE chips to be backwards

9 compatible with earlier standards?

10 A. Correct.

11 Q. Which meant people could continue to use their phones in

12 areas which did not yet have good LTE coverage while

13 networks were still being upgraded?

14 A. That is correct.

15 Q. Now, until late 2016, Qualcomm was the only chip

16 supplier that was able to offer an LTE chip that was

17 backwards compatible with CDMA 2000 networks, was it

18 not?

19 A. Yes, correct.

20 Q. That is the point in time at which, I think, MediaTek

21 launched — finally launched a CDMA-enabled LTE chip;

22 yes?

23 A. Yes.

24 Q. Now, as with its ability to offer multi-mode 3G

25 chipsets, this ability to offer LTE chips that were

1 backwards compatible with both CDMA and indeed other
 2 standards gave Qualcomm a very considerable competitive
 3 advantage, did it not?
 4 A. Yes, having compatibility with CDMA did, yes.
 5 Q. So, putting it simply, any OEM — for any OEM that
 6 required an LTE chip that was backwards compatible with
 7 CDMA, until late 2016, Qualcomm had zero competition?
 8 A. Well, again, if you are talking single chip, correct.
 9 If you are talking multiple chips, VIA would be an
 10 option.
 11 Q. So that is the point about having one LTE chip and
 12 one CDMA chip in the same phone?
 13 A. Correct.
 14 Q. We are going to come back to that, I assure you.
 15 So could we look at the market share figures for
 16 LTE, please. Tab 5 of your hard copy bundle and then it
 17 is {ORE/21/38}. So, again, these are figures prepared
 18 by the Class Representative's expert economist, again,
 19 despite the marking, they are not confidential for
 20 today's purposes.
 21 A. Yes.
 22 Q. Now, in fairness to the witness, I am just going to make
 23 clear that these figures do not include the self-supply
 24 of LTE chips by Samsung. There is a dispute in the case
 25 about that for —

1 A. Or Huawei.
 2 Q. Or Huawei, correct. We are coming back to the point
 3 about Samsung self-supply when we look at the
 4 Samsung-specific position.
 5 A. Yes.
 6 (Redacted — confidential information)
 7 Q. Now, Apple never bought a single LTE chipset from
 8 MediaTek, did it?
 9 A. They did not.
 10 Q. Samsung did not buy a single MediaTek LTE chipset
 11 until 2016, I believe?
 12 A. That I am not sure because there are multiple tiers of
 13 phones. They could have bought an LTE chip that is in
 14 a lower tier solution from MediaTek. I just do not
 15 know.
 16 Q. Okay. Well, on that point, I will take things slightly
 17 out of order just because you have made that point. If
 18 we look at {ORI/261.15}, just to look at the Samsung
 19 supply figures for LTE. You have it at tab 134 in the
 20 third — we saw the 3G version of this earlier.
 21 A. Yes, yes.
 22 Q. Can you see this looks at just the shipments to Apple
 23 and the shipments to Samsung for LTE. Can you see
 24 underneath shipments for Samsung, you can see you have
 25 the figures in terms of millions of units for MediaTek

1 and can you see there are no shipments for 2012, 2013,
 2 2014, 2015, and it is only in 2016 that a sort of
 3 limited quantity of MediaTek supplies start being made?
 4 A. Yes.
 5 Q. Does that assist with my question?
 6 A. Yes, for Samsung, you are correct, yes.
 7 Q. MediaTek was basically, I think you may have just said
 8 something along these lines, a lower cost, lower quality
 9 supplier. It was not a realistic option for premium or
 10 high-end smartphones, was it?
 11 A. At that time, are you talking about the dates
 12 between 2012 to 2016?
 13 Q. I am certainly at this stage just focusing on the LTE
 14 era, yes. We will come back to MediaTek in relation to
 15 5G.
 16 A. Yes, that is correct.
 17 Q. Now, in terms of Apple's requirements for LTE chipsets,
 18 actually we can take this from the same document
 19 helpfully. So you can see there that Apple supplied —
 20 sorry, Qualcomm supplied 100% of Apple's LTE chips for
 21 every year from 2012 to 2015; yes?
 22 A. Correct.
 23 Q. 2016 it is 84% as Intel comes in; yes?
 24 A. That is right.
 25 Q. 2017 it is 50:50, Qualcomm and Intel?

1 A. Yes.
 2 Q. It is not until 2018 that Intel starts to supply the
 3 majority of Apple's LTE chips?
 4 A. That is correct.
 5 Q. Now, the first LTE-enabled iPhone was I think the
 6 iPhone 5 released in September 2012?
 7 A. Yes.
 8 Q. That first LTE iPhone used 100% Qualcomm chips, as we
 9 see from the figures; yes? 2012, 100% Qualcomm?
 10 A. That is correct.
 11 Q. Then the same was true for the iPhones released in 2013,
 12 2014 and 2015; yes?
 13 A. That is correct.
 14 Q. Can we look, please, at paragraph 57 of your first
 15 statement {IRC/3/13}. You say here that you understand
 16 that:
 17 "... despite the fact that it was using Qualcomm's
 18 cellular modems, Apple continued to work with Intel
 19 (which had purchased Infineon) to develop a cellular
 20 modem that met Apple's specifications. Once Intel
 21 managed to develop a viable solution, Apple decided to
 22 dual source cellular modems from Intel and Qualcomm for
 23 the iPhone models launched in September 2016."
 24 A. Yes.
 25 Q. You say there "Once Intel managed to develop a viable

1 solution". So it is implicit in what you say there, is
 2 it not, that prior to 2016 Intel was not a viable
 3 alternative to Qualcomm from Apple's perspective?
 4 A. No. Also I would have to add that it is not trivial to
 5 try to build an LTE modem or a CDMA modem. It requires
 6 investment. It requires a lot of engineering effort to
 7 try to get that done. So it is not a surprise to me
 8 that Intel took that time and the help of Infineon to
 9 try to get an LTE modem up and running.
 10 Q. Based on what you said here, I had not thought this was
 11 going to be a point of controversy. You say once Intel
 12 managed to develop a viable solution, Apple decided to
 13 dual source cellular modems for the 2016 launch of the
 14 iPhone and I read that as accepting, implicitly, that
 15 prior to that launch Intel had not yet developed
 16 a viable solution?
 17 A. Not yet, correct.
 18 Q. Is that correct?
 19 A. Correct.
 20 Q. Thank you.
 21 Now, we see from your statement and the very helpful
 22 diagram that Apple dual sourced LTE chipsets from
 23 Qualcomm and Intel for the iPhones that were launched in
 24 both 2016 and 2017?
 25 A. That is correct.

1 Q. I think, to be precise, what actually happened is that
 2 there was a CDMA version of those iPhones which used
 3 a Qualcomm chip. Is that right? There are effectively
 4 two versions of these iPhones?
 5 A. That is correct.
 6 Q. That is because Intel did not at that stage have the
 7 ability to produce CDMA-enabled chipsets itself, did it?
 8 It acquired that ability later on because of the
 9 purchase of VIA?
 10 A. That is right.
 11 Q. Then paragraph 58 of your statement, so the same page,
 12 just on a very minor point, you say:
 13 "Apple sourced cellular modems exclusively from
 14 Intel for the iPhone models [that] it released in 2017
 15 through 2019."
 16 I think that might not be correct, because if you
 17 look at your diagram, you say that for the 2017
 18 iPhone X, that used Intel and Qualcomm chips; correct?
 19 A. Yes, that is correct.
 20 Q. So your first sentence should actually say 2018 through
 21 2019, I think, should it not?
 22 A. Yes, correct.
 23 Q. So it was only at this stage, in other words, when Apple
 24 had started to source — sorry, let me take a step back.
 25 It was only once Apple launched an iPhone in 2018

1 that exclusively used Intel chips that Apple had stopped
 2 being dependent on Qualcomm for such chips; yes?
 3 A. That is correct.
 4 Q. By 2018, when this happened though, the industry's
 5 attention was firmly turning towards 5G chipsets, was it
 6 not?
 7 A. Every decade or so there is a transition of the
 8 generations. So by the end of 2019/2020 is when we were
 9 expecting 5G to come to market.
 10 Q. What I was saying was that by 2018, when the first
 11 Intel-only iPhone was launched, everyone was thinking
 12 about 5G at that stage?
 13 A. They were thinking about when to launch 5G, yes.
 14 Q. I have a few more questions in open and then it might be
 15 convenient to take a break.
 16 Now, going back to {ORI/261.15}, we are going to
 17 switch attention to Samsung again. Can you see that
 18 from 2015 onwards the units — millions of units
 19 supplied by Samsung to Samsung, so that is Exynos
 20 self-supply option, start to climb in terms of numbers
 21 and percentages? So, sorry, just to take a step back,
 22 for 2012 to 2014 you can see, can you not, that there is
 23 very little self-supply by Samsung to Samsung, is there?
 24 A. Correct.
 25 Q. But it becomes much more material from 2015 onwards;

1 yes?
 2 A. Correct.
 3 Q. But based on these figures it was not until 2014, at the
 4 earliest, that Exynos was supplying a material share of
 5 Samsung's chips; yes?
 6 A. Yes, that is correct.
 7 Q. Now, Samsung was a vertically integrated company?
 8 A. Yes.
 9 Q. You in fact say in your statement that it would be more
 10 profitable for Samsung to self-supply chips than it is
 11 to buy chips from Qualcomm, other things being equal?
 12 A. Yes, that is in my witness statement.
 13 Q. So just looking at the share of supply figures, it
 14 follows, does it not, from these figures that Samsung
 15 must depend on Qualcomm for at least a very substantial
 16 part of its chipset requirements, because if it did not
 17 have to buy chips from Qualcomm, it would not do so,
 18 would it?
 19 A. That depends. We would — we always strive to come up
 20 with the best solution possible and that means we
 21 compete for every socket, we compete with every
 22 competitor and we try to extrapolate where our solutions
 23 should be to be highly competitive. So when Samsung, as
 24 a large OEM, looks at our solution, they would also want
 25 to have the best in their phones so that they can sell

1 the most amount. So sometimes we are the answer.
 2 Sometimes their own chip is the answer.
 3 Q. Indeed. So it might be because of some particular
 4 feature of Qualcomm's chips that Samsung needs Qualcomm?
 5 A. Correct.
 6 Q. But these figures do show, do they not, that Samsung is
 7 dependent on Qualcomm for at least a material proportion
 8 of its chipset requirements for LTE, do they not?
 9 A. Yes.
 10 Q. Now, you refer in paragraph 30 of your statement — and
 11 you have mentioned this a few times today and we have
 12 actually heard about it from I think every Qualcomm
 13 witness — to certain models of the Samsung Galaxy Nexus
 14 phone in 2011 which contained two chipsets, an Exynos
 15 LTE chipset and a VIA CDMA chipset — sorry, just to
 16 show you that, it is paragraph 30 of your statement
 17 {IRC/3/7}.
 18 A. Yes.
 19 Q. The final sentence. That is the example. I think you
 20 have mentioned that a couple of times today and I said
 21 I would come back to it.
 22 A. Yes.
 23 Q. That is 2011. We are in the very early days of LTE;
 24 yes?
 25 A. Yes.

1 Q. That approach effectively enabled Samsung to deploy
 2 a handset that was compatible with both LTE and CDMA
 3 networks; yes?
 4 A. Correct.
 5 Q. But without using a Qualcomm chip?
 6 A. That is correct.
 7 Q. Because, as we know, Qualcomm was the only supplier who
 8 could do LTE and CDMA in a single chip at that stage?
 9 A. That is correct.
 10 Q. Now, it is my understanding that these devices stopped
 11 shipping in 2012. Does that sound right or do you not
 12 know?
 13 A. I do not know.
 14 Q. But would you accept that using two baseband chipsets in
 15 the same handset to support a new standard and a legacy
 16 standard is not generally seen as a commercially—viable
 17 option for OEMs?
 18 A. Oh, no, the OEM has an option to fit that in into their
 19 designs at any time.
 20 Q. You give one example of where this happened in LTE. It
 21 is not something that was generally done, is it?
 22 A. No, not generally done, but it could definitely fit.
 23 Q. Could we please turn up {POF/618}, which is tab 65.
 24 This has been discussed, I think, at least with
 25 Mr Rogers. It is the BCG—Qualcomm presentation in

1 relation to Project Phoenix from November 2015. Have
 2 you seen this before?
 3 A. Just a couple of days ago.
 4 Q. Okay. You did not see it at the time, to your
 5 recollection? You did not see the document at the time,
 6 as far as you recall?
 7 A. No, not at that time.
 8 Q. I am just going to show you it anyway, seeing as you
 9 have seen it, and we can see how we go. It is only one
 10 page I want to look at which is page 15 {POF/618/15}.
 11 If we can zoom in. I do not think any of this is
 12 confidential. You see that slide is entitled, "TTM
 13 advantage strongest at onset of standard". "TTM" means
 14 Time To Market, I think?
 15 A. Yes.
 16 Q. Then you see a graph and according to the legend on the
 17 graph, CalTech, and that is QCT, that is a codename
 18 for QCT, you can see it is compared in relation to other
 19 suppliers like Samsung, Intel, MediaTek, HiSilicon, you
 20 can see a significant gap between the red line for QCT
 21 and then the other suppliers in terms of this TTM
 22 advantage, can you not?
 23 A. Yes.
 24 Q. Now, underneath the graph can you see there is
 25 a reference to "4G, 3G, 2G integrated solution" and that

1 is a reference to a single chip — reference to the word
 2 "integrated" — in fact it says it on the screen. It
 3 means a single modem chip that supports all of those
 4 generations, yes?
 5 A. Correct.
 6 Q. Then it says:
 7 "CalTech [so that is QCT] had been the only one with
 8 such product so OEMs had to use CalTech's chips
 9 (otherwise ending up with more number of chips in
 10 a phone, which is bad in terms of cost, power, design,
 11 etc.)"
 12 So that is articulating a number of advantages to
 13 the sort of option you refer in your statement of having
 14 two separate chipsets in a phone, is it not?
 15 A. I think this is the author's opinion. A very capable
 16 OEM, such as Samsung or Apple, could definitely figure
 17 out how to overcome some of these challenges.
 18 (Redacted — confidential information)
 19 Q. Well, certainly, according to at least the author of
 20 this slide, the view is that Qualcomm — QCT's ability
 21 to offer a single modem chip, supporting multiple
 22 generations, meant that OEMs had to use Qualcomm's
 23 chips; yes? That is what the author thinks at least.
 24 A. I think that is, yes, the opinion of this author, but my
 25 opinion is that they can use multiple chips to

1 accommodate the same functionality.
 2 MR ARMITAGE: That would be a very convenient point.
 3 THE CHAIR: All right. Thank you very much. We will take
 4 five minutes.
 5 (11.26 am)
 6 (Short Break)
 7 (11.40 am)
 8 MR ARMITAGE: We are in closed session, I think.
 9 THE CHAIR: Closed outer, I understand.
 10 MR ARMITAGE: Yes.
 11 (Redacted — confidential information)
 12 (12.27 pm)
 13 In Open Court
 14 (12.27 pm)
 15 MR ARMITAGE: Thank you.
 16 So turning to 5G, Mr Katouzian.
 17 A. Yes.
 18 Q. Qualcomm made its first commercial shipment of 5G chips
 19 in the second quarter of 2019. Does that sound right?
 20 A. Shipment is correct. I believe products came to market
 21 towards the very end of 2019, non—handset.
 22 Q. But I think we touched on this earlier. Qualcomm of
 23 course would have been preparing for the transition to
 24 5G long before it made its first commercial shipments,
 25 would it not?

1 A. I would say probably R&D—wise we would have been working
 2 on it for a few years before that and actual products
 3 probably about two years before that.
 4 Q. Similarly, OEMs would have been anticipating their
 5 future needs for 5G chips long before they actually
 6 bought them, would they not?
 7 A. Major OEMs, such as Samsung and Apple, probably two to
 8 three years before.
 9 Q. Qualcomm regarded itself as particularly well—placed to
 10 win the transition to 5G and acquire high market shares,
 11 did it not?
 12 A. Yes. I mean the company was founded based on cellular
 13 interface capabilities and, hence, the word — the name,
 14 Quality Communications, Qualcomm.
 15 Q. Can we look at {POF/826} which is at tab 80 of your
 16 bundle.
 17 A. 8—0, okay.
 18 Q. Yes. This is a letter to Qualcomm's stockholders
 19 in January 2018. I think part of the context for this
 20 letter is not particularly material to what I am about
 21 to ask you, but it is the attempted takeover of Qualcomm
 22 by Broadcom which we heard about last week from
 23 Mr Rogers, I think. Does that sound about right in
 24 terms of the timescale?
 25 A. I do not recall the exact dates but if that is the case,

1 yes.
 2 Q. You can see that, just for your information, from page 3
 3 of the document {POF/826/3}. They are talking about the
 4 board rejecting Broadcom's proposal. Do you see that?
 5 A. Yes.
 6 Q. Picking it up at page 4 {POF/826/4}, if it is okay to
 7 zoom in, please, can you see toward the bottom of the
 8 page there is I think a section heading, "Qualcomm
 9 stockholders are about to benefit from one of the most
 10 significant technology [shifts] and market opportunities
 11 in the history of wireless: 5G"?
 12 A. Mm—hmm.
 13 Q. So Qualcomm is identifying here for its stockholders
 14 that 5G is presenting a significant market opportunity?
 15 A. Correct.
 16 Q. There is reference to Broadcom's proposal undervaluing
 17 Qualcomm current business and "gives no value to the
 18 transformative 5G value creation opportunity that should
 19 play out as 5G is launched globally in 2019 — to the
 20 near— and long—term benefit of Qualcomm stockholders."
 21 Then it says this:
 22 "As the driving force behind the next technological
 23 revolution, 5G will leverage Qualcomm's technology to
 24 create a truly connected world. Qualcomm is 12—24
 25 months ahead of our merchant competitors in the

1 transition to 5G — a result of our innovation and
 2 technological advancements."
 3 So "merchant competitors" means companies like Intel
 4 and MediaTek, yes?
 5 A. That is correct.
 6 Q. Then it goes on to say:
 7 "We have already partnered with many companies to
 8 bring 5G to market, including Verizon, AT&T and multiple
 9 operators globally. We are the partner of choice for
 10 infrastructure vendors such as Ericsson, Nokia, Samsung
 11 and others. All OEMs and operators working to bring 5G
 12 to the market are working with Qualcomm."
 13 Then there is a reference in the next paragraph to
 14 Qualcomm's advantage in 5G being a direct outcome of its
 15 leadership in 4G and "our long—term R&D investments",
 16 which you referred to a moment ago.
 17 "Qualcomm is the only company to successfully lead
 18 in each mobile technology transition, in every case
 19 emerging as a larger and even better positioned company.
 20 5G will be no different."
 21 Sorry to keep reading it out, but I am nearly done:
 22 "Leading in 5G builds upon success and leadership in
 23 4G ... No other company comes close to Qualcomm on 4G
 24 LTE Advanced or on 5G."
 25 (Redacted — confidential information)

1 I was going to go to an internal document. This is
 2 {POF/825}. Tab 79.
 3 A. 79, yes.
 4 Q. "A Clear Roadmap for Value Creation". So this
 5 is January 16, 2018. It looks like a Qualcomm internal
 6 document. Have you seen this before?
 7 A. I have not seen this or at least I do not recall .
 8 Q. I am going to show you it anyway, because it relates to
 9 the discussion we were just having.
 10 A. Sure.
 11 (Redacted – confidential information)
 12 Q. Okay. So if we go to page 2 of the roadmap document
 13 {POF/825/2}.
 14 A. Page 2?
 15 Q. Yes.
 16 A. Yes.
 17 Q. That is definitely not the right page. Can we try
 18 page 3 {POF/825/3}? Can you see at the bottom of the
 19 page there is a reference to Qualcomm being "uniquely
 20 positioned to lead the emerging 5G world of intelligent,
 21 hyper-connected devices"?
 22 A. Yes.
 23 Q. Then the diagram above with Qualcomm in the centre
 24 identifies a number of aspects to this, including
 25 standards leadership, IP leadership and QCT product

1 innovation?
 2 A. Yes.
 3 Q. Then if we go on to page 18 {POF/825/18}, heading,
 4 "Qualcomm is making 5G a reality in 2019". There is
 5 a reference to "China and [the] U.S. driving hard to 5G,
 6 likely to accelerate ramp".
 7 Then can you see in the left of the diagram there is
 8 a reference to Qualcomm's Snapdragon X50 5G modem and
 9 that was, as the document says, "The world's first
 10 announced 5G connection on a mobile chipset"?
 11 A. Yes.
 12 Q. Then, as we see from the middle column, both China and
 13 the US were driving — well, China was driving the
 14 earlier adoption of 5G as a priority . The US had named
 15 it as a national security priority . So both the US and
 16 China were treating the transition to 5G as a priority ?
 17 A. Yes.
 18 Q. Then can you see in the right—hand column, Qualcomm is
 19 identifying itself as the "go—to partner for
 20 infrastructure vendors, OEMs and operators"?
 21 A. That is correct .
 22 Q. That set of company symbols include carriers like AT&T,
 23 Sprint and Verizon?
 24 A. Yes.
 25 Q. It includes OEMs like Samsung and also Huawei and ZTE

1 and others?
 2 A. I believe these OEMs are infrastructure vendors. So
 3 Samsung also provides infrastructure for cellular
 4 networks. Huawei does the same. ZTE does the same.
 5 Ericsson does the same.
 6 Q. Yes. So the text says "infrastructure vendors, OEMs and
 7 operators"?
 8 A. Yes.
 9 Q. Then if we go to page 20 {POF/825/20}, can you see there
 10 is a reference to technology transitions creating
 11 significant returns for Qualcomm?
 12 A. Mm—hmm.
 13 Q. The document records that:
 14 "3G to 4G transition drove significant revenues and
 15 earnings."
 16 It resulted in Qualcomm's revenues more than
 17 doubling. In the middle column:
 18 "Captured 80% + share of units during [the] first 3
 19 years of [the] technology transition from 3G to 4G."
 20 That is consistent with the market share figures we
 21 saw earlier , is it not? Qualcomm had very, very high
 22 shares certainly in the first three years of LTE, did it
 23 not?
 24 A. Yes. I think we have superior products and technology.
 25 Q. Yes. Then at the bottom there is a reference to

1 Qualcomm stockholders being poised to achieve
 2 substantial returns on 5G investment. So what this
 3 document is suggesting is that just as with 3G to 4G,
 4 Qualcomm is going to benefit very substantially from the
 5 transition to 5G; yes?
 6 A. I think, yes, that is what it states, yes.
 7 Q. Just as it had won the transition from 3G to 4G in terms
 8 of acquiring market share, it was anticipating the same
 9 thing for 5G?
 10 A. Yes.
 11 Q. You do not disagree with that assessment?
 12 A. I think the competition in 5G was a lot tougher, meaning
 13 either the vertically integrated companies or the
 14 merchant suppliers actually saw that they were behind in
 15 development of 3G to 4G transition and they did not want
 16 to be that way when 4G to 5G transitioned. So we faced
 17 a lot more tougher competition in the 5G transition than
 18 we did in the 4G transition.
 19 THE CHAIR: So you think — are you talking about
 20 competitors such as Exynos?
 21 A. Exynos, MediaTek, Huawei, HiSilicon, even Intel.
 22 MR ARMITAGE: Just looking at this document, which was an
 23 internal document from January 2018, we do not see any
 24 of that here, do we? We do not see any reference to
 25 Qualcomm will achieve substantial returns on 5G,

1 provided it can beat the very serious competition from
 2 these other suppliers. There is no reference to that on
 3 the slide, is there?
 4 A. I just cannot really comment on this, because I have
 5 never seen this document before, as well as I am not
 6 sure who wrote this and what their intent was.
 7 Q. Okay. That is fair. You did say you had not seen it.
 8 A. Yes.
 9 Q. Let us go then to {POF/777}. We saw this earlier on
 10 a ---
 11 A. Sorry, what tab?
 12 Q. I am so sorry, we are going to need to go back into ---
 13 sorry, yes, we are going to need to go back into
 14 confidential at this point?
 15 THE CHAIR: Have you asked all of your remaining open
 16 questions?
 17 MR ARMITAGE: I can certainly look at the script over lunch,
 18 but at moment I think I am going to have to stay in
 19 closed for the remainder, yes.
 20 THE CHAIR: All right.
 21 MR ARMITAGE: I will see if there is a way of coming back
 22 out again.
 23 THE CHAIR: Yes. I am just sort of slightly concerned about
 24 going back and forward.
 25 MR ARMITAGE: No, I will --- over lunch it may be just for

1 the purposes of trying not to do everything in closed,
 2 I may change one more time, but at the moment I am
 3 anticipating it is confidential from now on.
 4 THE CHAIR: All right. So we will go back into closed
 5 session now.
 6 (12.40 pm)
 7 (Redacted -- confidential information)
 8 (3.27 pm)
 9 (Short Break)
 10 (3.37 pm)
 11 In Open Court
 12 Re-examination by MR BAILEY
 13 MR BAILEY: Madam, I am pleased to say that we can do all of
 14 the re-examination in open court.
 15 THE CHAIR: Thank you.
 16 MR BAILEY: Mr Katouzian, I know it has been a long day, but
 17 can we just go back to this morning, please, to page 22
 18 of the [draft] transcript. This is just to show you,
 19 about halfway down, counsel ---
 20 A. Tab 22?
 21 Q. No, apologies it should be on the screen. It is today's
 22 transcript. What I am going to do is to show you what
 23 you were asked about and then take you to the document
 24 and ask you a few questions.
 25 A. Sure.

1 Q. So what you can see here is counsel for the Class
 2 Representative is asking you about a document at
 3 {POF/167}, to which we will come. Just to refresh your
 4 memory, this is an email in October 2008 and then if we
 5 can go to page 23, please, just to show you what you
 6 were then asked, about halfway down, you can see you
 7 were asked, at line 12:
 8 "It is a clear recognition from Mr Amon, is it not,
 9 that UMTS and CDMA chips are subject to different
 10 degrees of competition as at 2008, yes?"
 11 Then you can see your answer thereafter. Just read
 12 down to line 19.
 13 A. Mm--hmm.
 14 Q. I would like to just go back, if I may, to {POF/167},
 15 please, page 1. You were asked some questions about the
 16 first couple of bullets, but I would like to just look
 17 at the last couple of bullets. What we can see Mr Amon
 18 setting out here is that:
 19 "We are sending the wrong message with regards to
 20 TAM."
 21 What is "TAM"?
 22 A. Total Available Market.
 23 Q. "... if we want our customers to continue to invest in
 24 CDMA --- this is inconsistent with the CDMA plan
 25 presented to the [Qualcomm] senior management and

1 trusted to QCT."
 2 Then he goes on to say:
 3 "We are sending a message to our customers that CDMA
 4 operators cannot compete with UMTS in the long term and
 5 consequently due to their choice of technology,
 6 operators and/or OEMs must have lower margins."
 7 Now, so when Mr Amon is there referring to CDMA
 8 operators, were there some operators of CDMA networks
 9 in 2008?
 10 A. Yes.
 11 Q. Were there some operators of UMTS networks in 2008?
 12 A. Multiple.
 13 Q. So what do you understand Mr Amon to be referring to
 14 when he says "CDMA operators cannot compete with UMTS in
 15 the long term"?
 16 A. Yes. So CDMA 3G was really adopted by just a few
 17 network providers. Verizon was one. KDDI in Japan was
 18 another. South Korea, I believe --- I forgot the name of
 19 the operator in South Korea. China Telecom was another.
 20 Just a few around the world. In comparison, there were
 21 tens, multiple tens of operators that were operating in
 22 3G UMTS; Vodafone, Deutsche Telekom, T-Mobile, AT&T,
 23 British Telecom, a slew of them.
 24 THE CHAIR: Yes.
 25 MR BAILEY: How might the dynamic here that Mr Amon is

1 referring to, how might that affect Qualcomm in its
 2 behaviour, if at all?
 3 A. Yes. So I think what he is trying to say is the volume
 4 associated with CDMA is relatively small and to just
 5 lose the value of CDMA not only hurts Qualcomm, but it
 6 also hurts the operators that have chosen CDMA as an air
 7 interface.
 8 Q. So could Qualcomm just do what it liked with CDMA?
 9 A. No. No.
 10 Q. Could you just elaborate on why it could not just do
 11 what it liked?
 12 A. Because we had to make sure that operators that
 13 committed to CDMA had a viable path to compete against
 14 UMTS as well.
 15 Q. If we just go back to the transcript again, please,
 16 sticking with CDMA but turning to Apple. At page 29,
 17 please, you see you were asked, at line 16, just at the
 18 bottom — there we go. You see you were asked about
 19 an email in May of 2009, which is {POF/190}. Do you see
 20 at the bottom, you can see at line 25, that the subject
 21 line was, "Maverick CDMA interest summary". Do you see
 22 that, Sir?
 23 A. Yes.
 24 Q. Then if we look over the page, line 16 to line 17, can
 25 you see that you were asked about:

1 "This is a recognition internally, is it not, that
 2 VIA was not a realistic option for Apple?"
 3 A. Yes.
 4 Q. Do you see that?
 5 A. Yes.
 6 Q. Can we go, please, to an email that you sent around this
 7 time in 2009. That at {POF/198/2}. I just want to see
 8 if you can tell the Tribunal about your understanding.
 9 You will see — pick it up at the bottom. Can you see
 10 your name as the sender?
 11 A. Yes.
 12 Q. Go to page 3, please {POF/198/3}. I just want to ask
 13 you about a couple of things you wrote. Can we enlarge
 14 that. Thank you. If we pick it up in the third
 15 paragraph, what we can see you wrote is:
 16 "How much more can we charge for CDMA only and not
 17 have [a] monumental argument with Mav on pricing, or
 18 making the deal fall apart?"
 19 Just pause there. Could you just tell the Tribunal,
 20 please, what you meant when you set out that question?
 21 A. Yes, I think what I meant is if we overcharge for CDMA,
 22 that does not help the viability of CDMA becoming more
 23 and more relevant in the market, meaning that I have
 24 pointed out the fact that we are servicing the same
 25 market but with a different air interface, it is

1 actually doing the same thing, and so CDMA should be
 2 price competitive and not have a big charge associated
 3 with it.
 4 Q. What specifically did you mean when you said "or [make]
 5 the deal fall apart"?
 6 A. That they could go to a competitor.
 7 Q. We can see, if we just go on in your email and pick it
 8 up, you start to talk about the pricing through the
 9 fourth quarter of 2010 in the next paragraph. Can we
 10 just pick up the final sentence. You say:
 11 "I believe by [fourth quarter of] 2010, our 6085
 12 pricing will be lower than \$20, due to the pressure
 13 building from OEMs and VIA threat."
 14 Again, could you just explain for the Tribunal,
 15 please, what you understood the VIA threat to be and
 16 how, if at all, it affected Qualcomm's pricing of CDMA?
 17 A. Yes. So VIA was the second and only viable option for
 18 CDMA at the time. They would have been, in my opinion,
 19 more than happy to compete for the Apple and the Samsung
 20 business and the reason for it is those OEMs are
 21 extremely large with extremely good engineering
 22 capability. So if they were able to design and work
 23 with the VIA solution, that would mean that a massive
 24 viable company validated the VIA solution as a CDMA
 25 alternative and, therefore, I would do anything possible

1 to try to go get those designs and make my chip very
 2 validated in the industry.
 3 They would go aggressively after that and that is
 4 why I was worried about this email because they could
 5 pose a very, very big threat if they came in and got
 6 accepted at these OEMs so we should make sure that we
 7 are competing properly.
 8 Q. Thank you.
 9 You mention in your answer just there about the —
 10 you being more than happy to compete for the Apple and
 11 the Samsung business and you were asked some questions
 12 about Samsung's use of a VIA CDMA chip — for the note,
 13 that is at page 33 of the transcript, but I do not think
 14 we need to turn it up — but I would just like to show
 15 you a document (redacted — confidential information)
 16 Q. I am grateful.
 17 I would like to take you back, please, to the
 18 [draft] transcript at page 94. You were asked some
 19 questions about a letter that was issued to
 20 stockholders. Do you recall that, Sir?
 21 A. Yes.
 22 Q. You will see that we can — on page 94, you can see it
 23 is set out at line 12 by counsel for the Class
 24 Representative. It is a letter that was sent in
 25 January 2018.

1 A. Mm—hmm.
 2 (Redacted — confidential information)
 3 Q. Thank you.
 4 Can we go, please to page 113 of today's [draft]
 5 transcript.
 6 A. Yes.
 7 Q. It is — you were asked a question at lines 10 to 12:
 8 (Redacted — confidential information)
 9 A. Yes.
 10 Q. Then you can see your answer.
 11 Then can I just also take you to — this was
 12 in October 2018 is the date of this question — this
 13 document. Can I also just take you to the question you
 14 were asked on page 138, again just to orientate you in
 15 terms of what you were being asked about. You will see,
 16 at line 15, counsel asked you:
 17 "But nevertheless your evidence is that in relation
 18 to this period leading up to the licence [I think that
 19 is the GPLA] in April 2019, Apple had other 5G supplier
 20 options at its disposal?"
 21 You answered:
 22 "Correct."
 23 Do you see that?
 24 A. Yes.
 25 (Redacted — confidential information)

1 Q. You will be very glad to know this is my last set of
 2 questions. Thank you.
 3 On the [draft] transcript, please, at page 141, we
 4 are still in the — how shall I put it? — futuristic
 5 era of 5G that has not yet been launched but,
 6 nonetheless, is being put that Qualcomm would have at
 7 some point in the future a strong position. You were
 8 asked about:
 9 "Well, it is not a serious prospect, is it,
 10 Mr Katouzian, that Apple was going to take the plunge
 11 and use MediaTek for its first 5G iPhone, is it?"
 12 Do you recall that?
 13 A. Yes.
 14 Q. Then you were also asked, a couple of pages later,
 15 page 144, and you will see here, at lines 16 to 19,
 16 that — yes, you will see that it was being put to you
 17 about Samsung and whether it would compete for the 5G
 18 iPhone socket and it had not ever sold a 5G chipset to
 19 Apple. Do you remember that?
 20 A. Yes.
 21 Q. Okay. Can I just take you to a document that was —
 22 that leading counsel for the Class Representative went
 23 to earlier this week. That is at {POF/895.2}. It is
 24 a public document. It is from Reuters. You can see the
 25 heading there. It is Intel saying 5G modem chips will

1 not appear in phones until 2020. Have you seen that
 2 document before?
 3 A. I have not.
 4 Q. Not to worry.
 5 So we just need to look together, if we can, over
 6 the page {POF/895.2/2}. This was a public announcement.
 7 If we look together, four paragraphs down, picking it up
 8 at "Apple executives":
 9 "Apple executives have held talks with
 10 Samsung Electronics Co Ltd and MediaTek Inc over 5G
 11 modem chips for iPhones to be released this year, but
 12 the outcome of those talks is unknown."
 13 Before I ask my question, can I just take you back
 14 up to the top of the document, just to show you where we
 15 are. So we are at 22 February 2019. So we are less
 16 than a couple of months before the GPLA is signed on
 17 16 April 2019. What does this show about Apple's view,
 18 first of all, of MediaTek?
 19 A. That they are a viable player because they were already
 20 in the market and ramping.
 21 Q. What does this show about Apple's view of Samsung as
 22 a potential supplier of 5G chipsets in iPhones in
 23 February 2019?
 24 A. The same. Their modems were also ramping in Samsung
 25 phones, so viable.

1 MR BAILEY: Madam, that concludes the questions I had for
 2 Mr Katouzian.
 3 Questions by THE TRIBUNAL
 4 MR RIDYARD: I just have one short question, which follows
 5 on directly from that last point about the possibility
 6 of Apple buying from Samsung. I mean, how — obviously
 7 let us accept that Samsung was a good company, with good
 8 products, but how credible is it that Apple would rely
 9 on Samsung for 5G chips? There is two parts to that.
 10 One is: would Apple feel comfortable about that and the
 11 second one is: would Samsung feel comfortable about
 12 helping out Apple?
 13 A. Yes, Sir. So earlier in Apple's product launches, they
 14 were actually using an application processor from
 15 Samsung. So they were actually physically using. They
 16 were buying that. They were putting it in their phone.
 17 Later on they built their own and they evolved from
 18 there.
 19 Because the Samsung 5G modem was already ramping in
 20 Samsung phones, if Samsung Mobile Corporation relied on
 21 that modem to have a premium tier phone in the market,
 22 hence is a viable solution for Apple.
 23 Then, as far as Samsung is concerned, the second
 24 part of your question, Samsung's chipset division and
 25 manufacturing division are completely separated out from

1 the mobile division .
 2 MR RIDYARD: You said that earlier.
 3 A. So they are free to sell to anybody and allow or help
 4 non—manufacturing semi—conductor vendors to use their
 5 manufacturing facility , just like us. We have used
 6 Samsung foundry before — manufacturing before and Apple
 7 has also used Samsung manufacturing before.
 8 MR RIDYARD: Thank you.
 9 THE CHAIR: Was there any further question that arose out of
 10 Mr Ridyard's question on either side?
 11 MR ARMITAGE: No.
 12 THE CHAIR: All right. Thank you very much. Thank you very
 13 much, Mr Katouzian. You can leave the witness box now.
 14 THE WITNESS: Thank you.
 15 (The witness withdrew)
 16 Housekeeping
 17 THE CHAIR: Is there any other matter that we need to
 18 address today?
 19 MR MOSER: Not from our point of view, Ma'am, no.
 20 THE CHAIR: All right. Thank you.
 21 Mr Bailey?
 22 MR BAILEY: Madam, we would be very grateful if we could
 23 address, first thing tomorrow morning, the question that
 24 you raised with us this morning about the interpretation
 25 of Mr Gonell's evidence.

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1 THE CHAIR: Yes. I mean, it was a question to both sides.
 2 Obviously it was your witness, but it was addressed to
 3 both sides.
 4 MR BAILEY: You asked for clarification from both sides so,
 5 in fairness , if both parties could address it tomorrow
 6 morning, first thing, if that would be acceptable?
 7 THE CHAIR: Yes. Our main concern was to understand — was
 8 to establish whether we had understood him correctly.
 9 MR BAILEY: I think we think you are, as always, 95%
 10 correct, Madam, and —
 11 THE CHAIR: I am worried about the 5%.
 12 MR BAILEY: Well, no one is perfect, although in many
 13 respects you are, Madam, but nonetheless —
 14 THE CHAIR: All right. You can address us tomorrow morning
 15 and, Mr Williams, if you want to say anything then.
 16 MR WILLIAMS: We do not have a position about what the
 17 witness meant. We will look forward to hearing
 18 Mr Bailey's explanation about that. We do have
 19 a position on the substance of the substantive point,
 20 but I think we need to hear what Mr Bailey says before
 21 we discuss that.
 22 THE CHAIR: Thank you.
 23 So 10 o'clock start tomorrow, I think.
 24 MR MOSER: I thought tomorrow was a regular start?
 25 THE CHAIR: I am sorry.

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1 MR MOSER: I think 10 o'clock is the day after.
 2 THE CHAIR: Wait a minute, I am seriously confused about
 3 the days of the week here.
 4 10.30 tomorrow. That is right. No, it is a normal
 5 day tomorrow. Then 10 o'clock until 3.00 on Thursday
 6 with a 12.30 to 1.30 lunch. Thank you.
 7 10.30 tomorrow then. We will then start the
 8 hot—tub, so we will look forward to seeing Mr Noble and
 9 Mr Padilla.
 10 MR MOSER: Yes, Madam.
 11 THE CHAIR: Thank you.
 12 (4.02 pm)
 13 (The court adjourned until 10.30 am
 14 on Wednesday, 15 October 2025)

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